What is claimed is:

1. An process for the electrodeposition of a nickel or nickel-alloy coating on a substrate, the process comprising:

immersing the metal substrate in a bath comprising nickel ions and an additive having the general formula:

$$H_2C=CHCH_2NR_1R_2 \text{ or}$$

$$[H_2C=CHCH_2N^+R_1R_2R_3]_nX^{n-}$$

wherein R_1, R_2 and R_3 are selected from the functional groups consisting or hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion.

2. The process according to claim 1 wherein X^{n-} is an n-valent anion selected from the group of chloride, bromide, fluoride, sulfate, acetate, and tetrafluoroborate.

3. The process according to claim 1 wherein the bath further comprises alloying metal alloys.

4. An aqueous acidic plating bath for the electrodeposition of a nickel or nickel alloy deposit on a substrate comprising:

a) nickel ions; and

b) an additive having the general formula:

$$H_2C=CHCH_2NR_1R_2 \text{ or}$$

$$[H_2C=CHCH_2N^+R_1R_2R_3]_nX^{n-}$$

wherein R_1, R_2 and R_3 are selected from the functional groups consisting or hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion.

5. An aqueous acidic plating bath for the electrodeposition of a nickel or nickel alloy deposit on a substrate comprising:

a) nickel ions;

b) at least one Class I brightener; and

c) an additive having the general formula:

$$H_2C=CHCH_2NR_1R_2 \text{ or}$$

$$[H_2C=CHCH_2N^+R_1R_2R_3]_nX^{n-}$$

wherein R_1, R_2 and R_3 are selected from the functional groups consisting or hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion.

6. An aqueous acidic plating bath for the electrodeposition of a nickel or nickel alloy deposit on a substrate comprising:

a) nickel ions;

b) at least one Class II brightener; and

c) an additive having the general formula:

$$H_2C=CHCH_2NR_1R_2 \text{ or}$$

$$[H_2C=CHCH_2N^+R_1R_2R_3]_nX^{n-}$$

wherein R_1, R_2 and R_3 are selected from the functional groups consisting or hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion.

7. An aqueous acidic plating bath for the electrodeposition of a nickel or nickel alloy deposit on a substrate comprising:

a) nickel ions;

b) at least one Class I brightener;

c) at least one Class II brightener; and

d) an additive having the general formula:

$$H_2C=CHCH_2NR_1R_2 \text{ or}$$

$$[H_2C=CHCH_2N^+R_1R_2R_3]_nX^{n-}$$

wherein R_1, R_2 and R_3 are selected from the functional groups consisting or hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion.

8. An aqueous acidic plating bath for the electrodeposition of a nickel or nickel alloy deposit on a substrate comprising:

a) nickel ions;

b) alloying metal ions;

c) at least one Class I brightener;

d) at least one Class II brightener; and

e) an additive having the general formula:

$$H_2C=CHCH_2NR_1R_2 \text{ or}$$

$$[H_2C=CHCH_2N^+R_1R_2R_3]_nX^{n-}$$

wherein R_1, R_2 and R_3 are selected from the functional groups consisting or hydrogen, methyl, ethyl, propyl, allyl, propyn, propanediol and combinations thereof; and X^{n-} is an n-valent inorganic or organic anion.

9. The bath according to claim 8 wherein the alloying metal ions are selected from the group of iron, cobalt, tin, and zinc.

10. The bath according to claim 4 wherein X^{n-} is an n-valent anion selected from the group of chloride, bromide, fluoride, sulfate, acetate, and tetrafluoroborate.